This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of claims

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Claims 1-5. (canceled)

6. (currently amended) The method ~~Method~~ according to claim 60, wherein ~~characterized in that~~ the serine acetyltransferase is overexpressed in the cytoplasm of plant cells.

Claims 7 and 8. (canceled)

9. (currently amended) The method ~~Method~~ according to claim 62, wherein ~~characterized in that~~ the serine acetyltransferase is SAT3 which is represented by SEQ ID NO: 2.

Claims 10 and 11 (withdrawn).

Claims 12-14. (canceled)

Claims 15 and 16 (withdrawn).

17. (currently amended) The method ~~Method~~ according to claim 60, wherein ~~characterized in that~~ the serine acetyltransferase is overexpressed in chloroplasts of plant cells.

18. (currently amended) The method ~~Method~~ according to claim 17, wherein ~~characterized in that~~ the serine acetyltransferase is overexpressed in chloroplasts by integration, into chloroplast DNA of plant cells, of a chimeric gene comprising a DNA sequence encoding the serine acetyltransferase ~~acetyltransferase,~~ under the control of 5' and 3' regulatory elements which are functional in chloroplasts.

19. (currently amended) The method ~~Method~~ according to claim 17, wherein ~~characterized in that~~ the serine acetyltransferase is overexpressed in the cytoplasm in the form of a transit peptide/ serine acetyltransferase fusion protein, wherein the mature functional serine acetyltransferase is ~~being~~ released inside the chloroplasts.

20. (currently amended) The method ~~Method~~ according to claim 19, wherein ~~characterized in that~~ the serine acetyltransferase and transit peptide of the fusion protein are from the same protein.

Claims 21 and 22 (withdrawn).

23. (currently amended) The method ~~Method~~ according to claim 19, wherein ~~characterized in that~~ the serine acetyltransferase and the transit peptide of the fusion protein are from different proteins.

Claim 24 (canceled).

25. (currently amended) The method ~~Method~~ according to claim 23, wherein ~~characterized in that~~ the transit peptide is a transit peptide from a plastid protein other than a chloroplast serine acetyltransferase.

26. (presently amended) The method ~~Method~~ according to claim 25, wherein ~~characterized in that~~ the transit peptide consists of a plant EPSPS transit peptide or a plant RuBisCO ssu transit peptide.

Claims 27-30 (canceled).

Claims 31-59 (withdrawn).

60. (currently amended) A method for increasing the production of cysteine, glutathione, methionine or sulfur-containing derivatives of methionine by plant cells and plants in comparison with the level observed in nontransformed plant cells and plants, said method consisting of ~~comprising~~ overexpressing serine acetyltransferase in plant cells or in plants containing said plant cells transformed with a nucleic acid sequence encoding a cysteine-insensitive serine acetyltransferase ~~or in plants containing said plant cells~~, whereby overexpression of serine acetyltransferase results in the increased production of cysteine, methionine, glutathione, methionine or sulfur-containing derivatives of methionine in comparison with the level observed in nontransformed plant cells .

61. (currently amended) The method of claim 6, wherein ~~6 wherein~~ the serine acetyltransferase is a plant cytoplasmic serine acetyltransferase.

62. (currently amended) The method of claim 61, wherein ~~61 wherein~~ the plant cytoplasmic serine acetyltransferase is from *Arabidopsis thaliana.*

Claims 63 and 64 (canceled).

65. (presently amended) The method of claim 19, wherein ~~19 wherein~~ said serine acetyltransferase is a plant cytoplasmic serine acetyltransferase or a bacterial serine acetyltransferase.

66. (presently amended) The method of claim 25, wherein ~~25 wherein~~ said transit peptide comprises a plant plastid transit peptide and an N-terminal portion of a mature plastid protein linked by its N-terminus to the C-terminus of said plastid transit peptide.

67. (currently amended) The method of claim 66, wherein ~~66 wherein~~ said N-terminal portion of a mature plastid protein comprises less than 40 amino acids of the N-terminal portion of the mature plastid protein.

68. (currently amended) The method of claim 67, wherein ~~67 wherein~~ said N-terminal portion of a mature plastid protein comprises less than 30 amino acids of the N-terminal portion of the mature plastid protein.

69. (currently amended) The method of claim 68, wherein ~~68 wherein~~ said N-terminal portion of a mature plastid protein comprises between 15 and 25 amino acids of the N-terminal portion of the mature plastid protein.

70. (currently amended) The method of claim 25, wherein ~~25 wherein~~ said transit peptide comprises a plant plastid transit peptide, an N-terminal portion of a mature plastid protein linked by its N-terminus to the C-terminus of said plastid transit peptide, and a second plastid transit peptide linked by its N-terminus to the C-terminus of said N-terminal portion of a mature plastid protein.

71. (currently amended) The method of claim 70, wherein ~~70 wherein~~ said transit peptide is an optimized transit peptide (OTP) comprised of the sunflower RuBisCO ssu transit peptide fused to a peptide made of the twenty-two N-terminal amino acids of the mature maize RuBisCO ssu, which is in turn fused to the to the maize RuBisCO ssu transit peptide.

Claims 72 and 73 (canceled).

Claim 74. (new) A method of increasing the production of cysteine, glutathione, methionine or sulfur containing derivatives of methionine by plant cells, said method consisting of: (a) transforming plant cells with a nucleotide sequence encoding a cysteine-insensitive serine acetyltransferase; and

(b) expressing said nucleotide sequence encoding a cysteine-insensitive serine acetyltransferase in said plant cells, whereby expression of said nucleotide sequence results in increased production of cysteine, glutathione, methionine, or sulfur-containing derivatives of

methionine in said plant cells in comparison with the level observed in nontransformed plant cells.

75. (new). The method of claim 74, wherein said nucleotide sequence encodes SAT3 which is represented by SEQ ID NO: 2.

76. (new) A method of increasing the production of cysteine, glutathione, methionine or sulfur-containing derivatives of methionine by plants, said method consisting of:

(a) transforming plant cells with a nucleotide sequence encoding a cysteine-insensitive serine acetyltransferase;

(b) regenerating plants from the transformed plant cells.

(c) expressing said nucleotide sequence encoding a cysteine-insensitive serine acetyltransferase in said plants, whereby expression of said nucleotide sequence results in increased production of cysteine, glutathione, methionine, or sulfur-containing derivatives of methionine in said plants in comparison with the level observed in nontransformed plants.

77. (new) The method of claim 76 wherein said nucleiotide sequence encodes SAT3 which is represented by SEQ ID NO: 2.